

Vanalco, Inc. Air Operating Permit
Summary of Comments and Responses
October 17, 2000

Introduction

On July 10, 2000, the Department of Ecology, Industrial Section, gave notice of the availability for public review and comment of a draft Air Operating Permit (AOP) and Support Document under the Federal Clean Air Act, Title V, and Chapter 173-401 WAC, for Vanalco, Inc.'s primary aluminum smelter at Vancouver, WA. Comments were to be submitted to the Department of Ecology, postmarked no later than August 10, 2000.

Several people requested copies of the draft permit and support document. EPA returned a letter indicating that they would not be reviewing the draft permit, but reserving the right to object to the proposed permit or require reopening or modification of the issued permit. Comments were received only from Vanalco, Inc. by letter dated August 9, 2000 from Steven J. Mrazek to Stan Springer. This document summarizes those comments and responds to them with either a proposed change to the permit or a rationale for not making a change. This document is intended to be a summary. For exact content of comments provided, please refer to the above letter from Vanalco. For exact content of changes proposed to the AOP, please refer to the proposed permit, discussed below. Both these documents are available upon request from the Department of Ecology, Industrial Section, P.O. Box 47600, Olympia, WA 98504-7600, Attn: Stan Springer.

The next step in the permit issuance process is to incorporate the proposed changes into a "proposed permit" which is then submitted to USEPA Region 10 for 45-day review. Once any EPA comments are addressed, the permit will then be issued for a period of five years.

Summary of Comments Made by Vanalco and Department of Ecology Responses

Comment: Conditions 1.2 and 1.4, "eliminate" remains in the monitoring sections. "Elimination of detrimental emissions" is the proper corrective action. The requirements to eliminate fallout and odor have no basis. Recommend changing final sentence under "monitoring" to "Identify in the records when corrective action was completed."

Response: The draft permit language was intended to require elimination of *detrimental* emissions per the standards, not necessarily *all* emissions, and to require identification in the records when this is achieved. To further clarify this point, the permit will be changed to "Identify in the records when corrective action was completed *and compliance achieved.*"

Comment: Condition 1.6, there is an error in the formula.

Response: Corrected. The formula should be $SO_2/\text{ton Al} = (\sum C_X S_C + \sum P_X S_P + \sum O_X S_O) \times 40 / \text{Al}$

Comment: Conditions 2.4.e and 3.4.e requires, "Notify Ecology of all such instances (i.e. failure to initiate corrective action) at first opportunity during normal office hours." The timing,

frequency and content of notifications are governed by federal rules unless an upset has occurred in which case WAC 173-400-107 would dictate the timing of notification.

Response: 40CFR 63.10(d)(4)(i) states that, “The startup, shutdown, and malfunction report...shall be submitted to the Administrator semiannually (or on a more frequent basis if specified otherwise in a relevant standard *or as established otherwise by the permitting authority in the source’s title V permit*).” 63.10(e)(3) requires submittal of “...an excess emissions and continuous monitoring system performance report and/or a summary report semiannually, except when... (B) The Administrator determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the source...” “Administrator” is defined in Part 63 as including a state that has been delegated the authority to implement Part 63. Therefore, it is Ecology’s position that the reporting required by conditions 2.4.e, 3.4.e and 5.4.e is consistent with federal rules.

Further, condition 1.25, facility-wide generally applicable operation and maintenance, requires “If corrective actions are not completed within 24 hours of first observation of a problem, notify Ecology at first opportunity during normal office hours.” Reducing this notification requirement to as infrequent as semi-annually for emission units subject to MACT standards would create dramatically less-stringent reporting requirements for the most significant emission sources at the facility. By letter of July 19, 2000 to Messrs. Al Piecka, Bud Leber and Pete Hildebrandt, Carol Kraege (Manager of Ecology’s Industrial Section) responded to AEG’s request to lessen notification requirements as follows. “In general, for sources where visible emissions are not expected, we like the find it/fix it approach and want to keep the requirement to report corrective actions to Ecology if they cannot be completed within 24 hours.”

No change has been made.

Comment: Conditions 2.4.f, 3.4.f and 5.4.f, the word “not” was omitted.

Response: The permit has been revised to read, “Remain within limits for each operating parameter such that any given limit is not exceeded six or more times...”

Comment: Condition 3.2.a, Buildings 59 and 64A should be deleted from the emission unit description. Also, it was Vanalco’s understanding that POM and PM were the pollutants of concern (for the bake oven roof vents). Vanalco requests these pollutants be addressed instead of PM and opacity, due to the lack of need for VE observations and the impracticality of such readings. Also, monitoring and frequency/timing should refer to condition 1.25 (O&M).

Response: Ecology's intent in this condition has been and is to establish periodic monitoring to demonstrate compliance with particulate and opacity standards. Recognizing that the shape and location of the vents makes them difficult or impossible to monitor using conventional methods, especially for opacity, a test plan was agreed upon as a way to offer Vanalco an opportunity to devise a practical way to monitor these emissions, and to provide rationale for any deviations from reference methods that might be necessary to do so. Ecology agrees that polycyclic organic matter (POM) emissions may also be of concern from a human exposure standpoint. As such, we support testing to quantify these emissions. There is currently no applicable requirement for monitoring for POM from this emission point. Vanalco has done some monitoring for POM and has

indicated their intent to address POM as well as particulate and opacity in their test plan for bake oven roof vents.

No change has been made.

Comment: Condition 3.3.a.i. states that the Bake #3 Packing Material Baghouse discharges inside Building 64. It discharges inside Bldg. 64A.

Response: This change has been made to the permit.

Comment: Condition 3.4.c, “24-hour” average should be changed to “daily” average, and 65,000 acfm should be changed to 50,000acfm per revised Site Specific Test Plan/Continuous Parameter Monitoring Plan. Under partially curtailed operation, new parameter limits for single furnace, two fire, single A-446 reactor operation have been established in a revised plan. Daily average airflow will be maintained at or above 12,000 acfm. Daily average ore flow will be maintained at or above 2.5 tons/day.

Response: Ecology received these plan revisions after releasing the public notice permit draft and has now incorporated these changes.

Comment: Condition 3.4.i, “action” should be inserted between “corrective” and “program” in the description of the requirement.

Response: Change made to conditions 2.4.h, 3.4.i and 5.4.j. This is consistent with language in 40CFR 63.850(c).

Comment: Conditions 3.4.k and 5.4.k, change “excess emissions report” to it’s complete title: “Excess emissions and continuous monitoring system performance report.”

Response: Change made.

Comment: Conditions 5.2.b and 5.3.b. Vanalco’s position on this requirement (collection efficiency standards in WAC 173-415-030(1)(b)) is that it is a design requirement compliance with which was demonstrated on a one-time basis. No continuing compliance demonstration should be required unless a change in design or new design is put into service. Further, the standard was a combined determination of collection and control (hooding & scrubbing) rather than a separate determination for each. Review of Ecology records supports this position. Recently, Ecology has revised the interpretation of the rule in a significant way. The new/current interpretation is much more stringent. So much so that it is tantamount to rule revision without notice and comment and a violation of Washington law. Although Vanalco complies with both interpretations of the requirement, the significance of the interpretation change without rulemaking gives us great concern. Vanalco urges Ecology to defer this matter to the WAC 173-415 rule revision process currently underway.

The phrase collection efficiency is a misnomer in that a significant contribution of secondary emissions is due to activities taking place in the potroom but outside the hoods. As a result, Vanalco’s test methods are conservative and significantly understate the true collection efficiency. The determination of collection efficiency is also impaired by the logistics of collecting an isokinetic sample from the inlet to the dry scrubber. The high grain loading at the inlet results in sample train vacuums approaching the limits of the pump (25 inches of mercury). The inlet sampling time must be limited to two hours, whereas the secondary emissions sample

covers a complete process cycle (48 hours). These factors prevent a true determination of collection efficiency.

Recognizing the above limitations Vanalco proposed using the phrase “O & M Index” to describe what was being measured and evaluated. As you will recall, this was not our first choice for demonstrating compliance. The preferred alternative was and remains continuously monitoring all potlines for hydrogen fluoride emissions and correlating the results to standard EPA test methods. This proposal is equally protective of the environment and would require fewer resources since sampling the inlet is not necessary. This was proposed but not accepted by Ecology. Vanalco agreed to using the O & M Index to suit Ecology’s preference with the expectation that collection efficiency would be de-linked from the operation and maintenance requirement. This “bright line” alternative was viewed by production staff as preferable to process restrictions, inspections and record keeping originally considered by Ecology. We expected the collection efficiency requirement to be listed as “applicable and complied with” in the permit but that no further monitoring would be required. In addition, it was Vanalco’s understanding that the Line 2 inlet would be representative of all potlines and the only inlet site requiring testing i.e. three tests per month. The draft permit requires inlet testing for all lines i.e. 15 tests per month. Vanalco lacks the personnel to complete this additional sampling.

The draft permit as well as recent telephone conversations (between Vanalco and Ecology) suggest that the two sides are at fixed positions regarding O & M and collection efficiency that are not subject to change. In hindsight, Vanalco’s suggested language (O & M Index) may not provide a bridge around these important issues. In fact, this concept may even muddy the water further. Both sides continue to have concerns regarding precedents. Interpretations continue to be widely divergent. Fortunately for all parties involved, a change in interpretation has no bearing on the compliance status of Vanalco. As such, it is not environmentally meaningful to continue to expend Vanalco and Ecology resources debating this issue, especially in the context of Title V. That said, the challenge is to find a way to complete the Title V process without getting bogged down on issues devoid of environmental significance.

Vanalco is hopeful of resolving these issues in a mutually agreeable manner. Page seven of Carol Kraege’s July 19th letter to Al Piecka, Bud Leber and Pete Hildebrandt suggests that opportunity remains and that Ecology is equally committed to finding an environmentally protective resolution without unnecessary monitoring. To that end, total fluoride “collection efficiency” data for the last three years were plotted against secondary total fluoride emissions. As expected, a strong correlation was found of 0.89 for R square and 0.95 for multiple R using monthly averages (please refer to the attached data). The correlation using individual test results yielded 0.87 for R square and 0.93 for multiple R. The data show that there have been 36 consecutive monthly average “collection efficiency” determinations exceeding 95%. There is a 99% confidence level of meeting 95.39% collection. To further support Vanalco’s proposal and address concern that Line 2 results may not be representative of other potlines, “collection efficiencies” for the other potlines were determined using HF CEM data correlated to EPA test methods. Data from the first six months of calendar year 2000 were used for convenience. “Collection efficiencies” exceeded 95% in all instances. Where both EPA and CEM data were available, “collection efficiency” results between the two test methods were compared. “Collection efficiencies” determined with CEMS were less than those determined by EPA test methods in all instances. Based on the above discussion, Vanalco asserts that secondary emissions measurements provide an effective indicator of O & M performance and that an equal level of environmental protection can be achieved without measuring TF at the inlet.

Vanalco's proposal is as follows:

Under collection efficiency (Condition 5.3.b): The permit would state that the requirement is applicable but complied with. The monitoring section would state that no further monitoring was necessary. The support document would include a synopsis of the data.

Under Potroom O & M (Condition 5.2.b): The monitoring would be continuous HF emissions monitoring in each potline correlated to EPA TF test methods. The limit would continue to be 3.0 lbs. TF/ton. Compliance would continue to be determined by monthly averages for each potline plus the 12-month average from the primary control system for each potline. Instead of reporting only the monthly average that includes all valid and complete process cycles, Vanalco would report emissions for each individual valid and complete process cycle in addition to the monthly averages for each line. This would increase the accountability and demonstrate through low variability that proper O & M is occurring at all times. Vanalco asserts that using a least cost alternative that is equally protective of the environment makes sound public policy.

Response: Ecology respectfully disagrees that the collection efficiency requirement is a one-time design requirement without regard to future operation & maintenance. We believe the only rational interpretation of the rule is that the facility is expected to maintain the specified level of collection efficiency over the life of the equipment. Further, WAC 173-401-615(b) requires that the permit contain "periodic monitoring sufficient to yield reliable data ... representative of the source's compliance..." Although previous Ecology requests for collection efficiency data may have allowed a determination of combined efficiency for collection and control (perhaps to minimize cost), WAC 173-415-030(1)(b) states these as separate requirements.

Review of monitoring data indicates that Vanalco consistently meets 95% collection efficiency. At a 99% confidence level, data from the past three years indicates monthly average collection efficiencies of 95.39% or better, corresponding to monthly average secondary TF emissions of 2.24 lbs/ton of aluminum produced or less. Therefore, Vanalco has demonstrated that it is meeting 95% collection efficiency on an ongoing basis, provided this level of performance continues. On this basis, Ecology has determined that no routine monitoring will be required for collection efficiency per se, as long as monthly average secondary TF emissions remain at or below 2.24 lbs/ton of aluminum produced, except for a period of time following re-start of a potline. Ecology would retain the ability to request collection efficiency testing. Ecology is accepting 2.24 lbs/ton as a surrogate measure for demonstrating potroom O&M consistent with good air pollution control practice. MACT monthly average CEM secondary emission monitoring data for each potline will be used to determine compliance with good O&M (as well as providing an ongoing indication of compliance with the 95% collection efficiency as justification for no routine direct collection efficiency monitoring). In the event that Vanalco exceeds 2.24 lbs/ton, a report on the reasons and actions planned to reduce emissions will be required. If exceedances continue during any rolling 12-month period, potroom inspections would next be required, and finally, collection efficiency monitoring would be required. Conversely, if emissions return to levels at or below 2.24 lbs/ton, these additional monitoring measures may be discontinued.

Comment: Condition 5.4.a.i. The citation for the first applicable requirement should be 40CFR63.843(a)(1)(ii).

Response: Change made.

Comment: Conditions 5.4.a.ii and 5.4.a.iii. Monthly reports for potline TF are required by Ecology, quarterly or semiannual reports are by EPA. This adds to the burden. Would/could this be alleviated by Ecology getting full and current delegation of the programs it administers?

Response: Delegation alone wouldn't alter or supercede the state's requirements. Ecology would be reluctant to consider reducing the reporting frequency, due to the importance of aluminum smelters as large air emission sources in Washington. Once delegation is achieved, a single, monthly submittal to Ecology should satisfy both state and federal requirements.

Comment: Condition 5.4.a.v. Federal primary aluminum MACT rules require notification at least 60 days prior to each test. These rules also required Vanalco to submit and follow a test plan, including a performance testing schedule. Does approval of the test plan address the requirement to submit ongoing schedule notifications? Where CEMs are used, performance testing is underway at all times. Vanalco's understanding is that EPA intended for the (test plan) schedule to complete the notification obligations. If so, Vanalco suggests the language, "Conduct performance tests according to the schedule set forth in the Site Specific Test Plan."

Response: For CEMs, it is Ecology's view that approval of the test plan satisfies Vanalco's obligation to submit ongoing notification. For source testing, the test plan contained only a generalized schedule, which is on file with Ecology as a public record. The permit requires 4-hour source test at some time during a month or year, and states, "The schedule for testing of units shall not be announced in advance to operators or maintenance personnel responsible for production or primary system O&M." The test plan is neither sufficiently detailed to provide the required schedule of specific performance tests, nor is it sufficiently unavailable to operations/maintenance personnel to satisfy the intent of the MACT rule. No change has been made.

Comment: Condition 5.4.b. Vanalco is required to request performance audit materials 45 days prior to each performance test under primary MACT. Federal rules also required Vanalco to submit and follow a test plan, one component of which was an external quality assurance program which relies on monthly analyses in triplicate of blind audit samples provided by EPA. The audit samples are not available to sources. Sources must ask their state regulator to contact EPA to request the audit materials. Mr. Robert King (of Ecology) has provided several months of audit materials at a time. Does approval of the test plan address the requirement to request audit materials on an ongoing basis? The use of CEMs makes this issue even more confusing since performance testing is underway at all times. Vanalco suggests the language, "Conduct external quality assurance program in accordance with the Site Specific Test Plan."

Response: Because this requirement is taken directly from federal rules, no change is made. However, Ecology's view is that, if Vanalco maintains a supply of needed audit samples, it is in compliance with the requirement. It is Vanalco's responsibility to initiate timely requests as needed to maintain an adequate supply.

Comment: Condition 5.4.c, the word "daily " should be substituted for "24-hour" in the Requirement Description for airflow and ore flow. The minimum airflow of 175,000 acfm should

be changed to 160,000. Refer to the revised Site Specific Test Plan/Continuous Parameter Monitoring Plan.

Response: Change made.

Comment: Building 36A Baghouse, Visible Emissions. This condition lacks a condition number.

Response: A condition number has been added. It is 7.2.b.

Comment: Condition IV.2.b, Can multiple monthly reports be certified “batch mode” or must each one be certified independently?

Response: A condition allowing “batch certification” has been added to condition IV.2.a of the permit, and a reference to it has been added to condition IV.2.b.

Comment: Condition IV.2.c(a), the language, “... for other deviations, ‘promptly’ means that the deviations are identified in the monthly report.” This language is in apparent conflict with language shown in several other conditions. Vanalco suggests modifying the language as follows: “...for other deviations, unless specified elsewhere in an applicable requirement, ‘promptly’ means... .” This would allow MACT and upset notification provisions to govern in most foreseeable instances without creating an unnecessary obligation of submitting the same information twice and preventing confusion over what needed to get done when.

Response: The following has been added: “...for other deviations, unless specified elsewhere in this permit, ‘promptly’ means... .” See the above response to comments on conditions 2.4.e and 3.4.e.

Comment: Condition IV.3.n. Vanalco is subject only to the Risk Management Program’s General Duty Clause. No risk management plan is required. Therefore, the word “applicable” should be inserted into paragraph b.

Response: “Applicable” has been added.

Comment: Permit Shield/Inapplicable Requirements, this section should include the ten previously-issued orders superseded by the “consolidated order” issued to Vanalco on July 12, 2000.

Response: These orders have been added. In reviewing the Inapplicable Requirements, Ecology also noted that several sections of Chapter 173-400 WAC had been claimed as inapplicable by Vanalco in their application because they are preempted by provisions of Chapter 173-415. EPA has commented to the effect, and Ecology’s position is that these sections are not preempted, but as stated in WAC 173-415-030, “Specific emissions standards listed in this chapter will *take precedence over* the general emission standards of chapter 173-400 WAC.” Therefore, the following requirements are applicable requirements and have been deleted from the list of Inapplicable Requirements and added to the respective conditions in the permit as preceded requirements (small type). An explanation is given in Section II, Specific Processes, of the permit and in the Support Document.